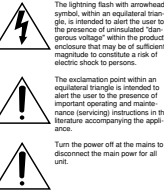
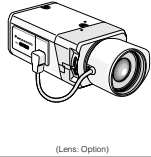


Panasonic

Colour CCTV Cameras  
Operating Instructions

Model No. WV-CP250  
WV-CP254E

NO503-1103 3TR001752BAA Printed in China



We disclaim under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents relating to the provisions of Directives EEC/73/23 and EEC/89/338.

WV-CP250 en 752 pixels, 752 horizontal pixels, 50 dB (H) x 4,68 (V) mm (equivalent to scanning area of 10° pick-up tube)

WV-CP254E en 752 pixels, 752 horizontal pixels, 50 dB (H) x 4,68 (V) mm (equivalent to scanning area of 10° pick-up tube)

CAUTION: An ALL-POLE MAINS SWITCH with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building. (WV-CP250 only)

PREFACE

Panasonic's WV-CP250/CP254E series digital signal processing colour CCD cameras introduce a new level of high picture quality and high resolution through the use of a 1/3-inch effective transfer

FEATURES

- 1. The following functions are built in:
  - (1) Auto Light Control (ALC)/Electronic Light Control (ELC)
  - (2) Automatic Gain Control (AGC) and Automatic Tracing White Balance (ATW)
  - (3) Camera synchronization mode selectable between internal (INT), Line-locked (LL) and Multiplexed Vertical Drive (VDD)
- 2. Minimum illumination of 1.0 lx (0.1 foot-candle) at colour mode, 0.15 lx (0.015 foot-candle) at black and white mode with F1.4 lens.

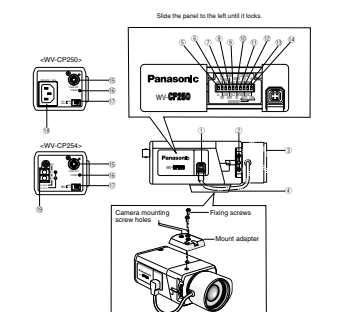
CCD image sensor having 752 horizontal pixels (picture elements), and digital signal processing LSI's. This model offers cutting-edge technology for advanced video surveillance.

- 3. Signal-to-noise ratio of 50 dB (min) (at AGC OFF, weight CN)
- 4. Horizontal resolution of 480 lines
- 5. Auto iris lens control selectable between video signal and DC power supply
- 6. Auto black-and-white mode enables the camera to switch between colour and black and white picture in response to light input.

PRECAUTIONS

- 1. Do not attempt to disassemble the camera. To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Ask a qualified service person for servicing.
- 2. Handle the camera with care. Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.
- 3. Do not expose the camera to rain or moisture, or try to operate it in wet areas. Turn the power off immediately and ask a qualified service person for servicing. Moisture can damage the camera and also create the danger of electric shock.
- 4. Do not use strong or abrasive detergents when cleaning the camera body. Use a dry cloth to clean the camera when dirty. In case the dirt is hard to remove, use a mild detergent and wipe gently. Afterwards, wipe off the remained part of the detergent in it with a dry cloth.
- 5. Clean the CCD facplate with care. Do not clean the CCD with strong or abrasive detergents. Use lens tissue or a cotton tipped applicator and ethanol.
- 6. Never face the camera towards the sun. Do not aim the camera at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise, blooming or smear may be caused.
- 7. Do not operate the camera beyond the specified temperature, humidity or power source ratings. Use the camera under conditions where temperature is between -10°C + 40°C (14°F + 104°F) and humidity is below 90 %. The input power source is 220 V, 240 V AC 50 Hz or WV-CP250 is 220 V AC 50 Hz or 12 V DC for WV-CP254E.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



- (1) Auto Iris Lens Selector Supplies power and control signals to an auto iris lens (not supplied).
- (2) Focus Lock Knob This knob adjusts the back-focus distance or picture focus.
- (3) Lens (option)
- (4) Mount Adapter The camera mounting screw hole is for mounting the camera onto a mounting bracket. The camera is originally designed to be mounted from the bottom, however, a top-mounting type is also available. To mount from the top, remove the mount adapter from the bottom of the camera by removing two fixing screws. Attach the mount adapter to the top as shown in the diagram, then mount the camera on the mounting bracket. Make sure that two original screws are used when mounting the mount adapter, longer type screws may damage inner components, too shorter type screws may cause the camera drop.
- (5) Synchronization Mode Selector (INT, LL) Selects the camera synchronization mode as either internal sync mode (INT) or line-locked mode (LL). INT: Sets to internal 2:1 interlace. LL: Sets to Line-locked mode. Note: Do not set the switch to the LL position when supplying 12 V DC to avoid a synchronization error.
- (6) Back Light Compensation Mode Selector (BLC ON/OFF) Lets you select the mode according to the position of the object and light conditions on the screen. ON: Select this mode when a strong light source such as a spotlight is in the background. OFF: Normal picture. The factory default setting is OFF.
- (7) AGC Level Selector AGC level can be selected with this selector. AGC automatically controls the gain of image brightness level. HI: This setting raises more the gain and brightness of images under low light conditions. LOW: Normal position
- (8) Detail/Aperture Level Selector (SHARP, SOFT) The detail/aperture level can be selected with this selector. Set it to the desired position while observing the picture on the monitor. SHARP: Normal position. SOFT: Select this position when a Quad System is connected to this camera.
- (9) Automatic Light Control/Electronic Light Control Selector (ALC, ELC) Lets you select the mode according to the lens type used. ALC: Select this mode when an auto iris lens (ALC lens) is used with this camera. ELC: Select this mode when a fixed iris lens or manual iris lens is used with this camera.
- (10) Lens Drive Signal Selector (VIDEO, DC) Lets you select the mode according to the type of auto iris lens drive signal to be supplied to the lens from the auto iris lens connector. VIDEO: Select this mode if you are using a video drive signal. DC: Select this mode if you are using a DC drive signal. Its lens that requires a DC drive signal.
- (11) Auto-Tracing White Balance mode (ATW) Selector The ATW mode can be selected with this selector. ATW1: Normal picture. ATW2: ATW in sodium lamp mode

- (12) Day/Night Mode Selector This function switches the condition of picture from colour to black and white in low light conditions. COLOUR FIX: Colour picture reverts to black-and-white picture when an external daylight switching signal is received (refer to Day/Night connection). Note: When using this unit with infrared rays or lighting of which colour temperature is 3 000 K or less, select this mode without fail, and short-circuit the Day/Night input terminals. If you select the black-and-white picture (The AUTO mode may cause hurring). AUTO: The camera selects black-and-white mode if the picture is dark, or colour mode if the picture is bright enough. Notes:
  - When using this unit with a video servo control lens, you may not switch from the black-and-white mode to the colour mode depending on lens iris.
  - In such a case, operate the lens adjuster to open the aperture.
  - This function may not be activated automatically when a backlight or a strong light source causes excessive contrast in the picture. In such cases, use the Day/Night input terminals.
- (13) Duration Time Selector This selector is available when the Day/Night switching position is AUTO. Switching time (5 sec. or 1 minute) is selectable.
- (14) BW Level Selector Selects the luminance level. This selector is available when the Day/Night switching position is AUTO. According to the luminance level, this camera automatically switches the condition of picture from colour to black-and-white, or in reverse. HI: Colour picture switches to black-and-white pictures at approx. 7 lx with F1.2 lens. LOW: Colour picture switches to black-and-white pictures at approx. 5 lx with F1.2 lens. The factory default setting is HI.
- (15) Video Output Connector (VIDEO OUT) This connector is for connecting with the VIDEO IN connector of the video monitor. Whenever the multiplexed vertical drive (VDD) signal is supplied to this connector, the camera synchronization mode is automatically set to Vertical Drive.
- (16) Power Indicator (POWER) This power cord is for connecting with the VIDEO IN connector of the video monitor. Terminals opened: colour picture. Terminals shorted: black-and-white picture to Vertical Drive.
- (17) AC Inlet Socket Plug the power cord (supplied as a standard accessory) into this socket and connect it to an AC outlet.
- (18) AC/DC Compatible Input Terminal (DC 12 V IN/AC 24 V IN) This terminal is for connecting the 12 V DC or 24 V AC power supply cord. Note: Do not exceed the ratings of the voltage/current when connecting the external device.

CONNECTIONS

- A. WV-CP250 (220 V - 240 V AC 50 Hz) Connect the power cord to an electrical outlet of 220V - 240V AC 50Hz. Notes:
  - Connect the power cord firmly.
  - The power cord should be long enough for carrying and lifting. If the cable is too short, the power cord plug may be pulled off the camera when the camera pans or tilts.
- B. WV-CP254E (12 V DC/24 V AC) The WV-CP254E has an AC/DC compatible input terminal. The 12 V DC or 24 V AC power supply cord can be connected to this terminal. The camera detects the power source automatically.
- 1. 12 V DC Power Supply Connect the power cord to the AC/DC compatible input terminal on the rear panel of the camera.

Resistance of copper wire [at 20°C (68°F)]

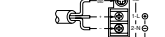
Copper wire size (AWG)	624	622	620	618
Resistance/4m	0.076	0.086	0.036	0.016
Resistance/10m	0.036	0.017	0.010	0.008

Calculation of maximum cable length between camera and power supply

10.8 V DC < V<sub>A</sub> - (R x 0.42 x L) < 16 V DC  
L: Cable length (m)  
R: Resistance of copper wire (Ω/m)  
V<sub>A</sub>: DC output voltage of power supply unit

L standard =  $\frac{V_A - 12}{0.42 \times R}$  (m)  
L minimum =  $\frac{V_A - 16}{0.42 \times R}$  (m)  
L maximum =  $\frac{V_A - 10.8}{0.42 \times R}$  (m)

2. 24 V AC Power Supply Connect the power cable to the AC/DC compatible input terminal on the rear panel of the camera.



Recommended wire gauge sizes for 24 V AC line

Cable type	624	622	620	618
Length (m)	85	100	355	425
Capacity (mm²)	0.5	0.75	1.5	2.5

Be sure to use a 12 V DC or 24 V AC power supply device that complied with safety standards.

Caution for Mounting the Lens

The lens mount should be a C-mount or C-mount (1'-3/32UN) and the lens weight should be less than 450 g (0.99 lbs). If the lens is heavier, both the lens and camera should be secured by using the supporter.

The provision at the rear of the lens should be as shown below.



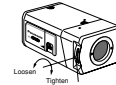
Day/Night Connections

Connect an optical sensor to the Day/Night input terminals.

- Day/Night input terminals with a capacity of 5 V DC pull-up input 0.1 mA or more.
- ON: make contacts black-and-white picture
- Note: To activate the Day/Night function, set Day/Night Mode Selector to COLOUR FIX.

FOCUS OR FLANGE-BACK ADJUSTMENT

- 1. Loosen the focus lock knob.
- 2. Adjust the focus lock knob to obtain a focused point while watching the monitor screen.
- 3. Tighten the focus lock knob.



Caution: Tightening the knob by force will cause damage to the knob or deviation of focus.

Note: The object may be out of focus when using a source of near-infrared light than using the visible light.

SPECIFICATIONS

- Pick-up device: 752 (H) x 682 (V) pixels, interface transfer CCD
- Scanning area: 5.68 (H) x 4.68 (V) mm (equivalent to scanning area of 10° pick-up tube)
- Synchronization: internal, line-locked or multiplexed vertical drive (VDD), selectable
- Scanning system: 2:1 interlace
- Scanning: 625 lines / 50 fields / 25 frames
- Horizontal resolution: 50 Hz
- Vertical resolution: 480 lines
- Video output: 1.0 Vp-p (PAL composite 75 Ω BNC connector)
- Signal-to-noise ratio: 50 dB (min) (at AGC ON, weight CN)
- Electronic light control: equivalent to continuous variable shutter speed between 1/50 s and 1/15,000 s
- Minimum illumination: 1.0 lx (0.1 foot-candle) at colour mode, 0.15 lx (0.015 foot-candle) at black and white mode with F1.4 lens
- Aperture: SHARP or SOFT, selectable
- Lens mount: C-mount
- Lens weight: -10°C + 40°C (14°F - 104°F)
- Ambient operating humidity: less than 90 %
- Power source and power consumption: WV-CP250: 220 V - 240 V AC 50 Hz, 3.9 W  
WV-CP254E: 12 V DC 300 mA, 24 V AC 50 Hz, 3.3 W
- Dimensions (without lens): 70 mm (W) x 55 mm (H) x 118 mm (D)  
2-3/4" (W) x 2-3/16" (H) x 4-5/8" (D)
- Weights (without lens): WV-CP250: 0.460 kg (1.01 lbs)  
WV-CP254E: 0.450 kg (0.99 lbs)
- Day/Night: selectable COLOUR FIX (+ external terminal active) or AUTO
- Weights and dimensions include approximate. Specifications are subject to change without notice.

STANDARD ACCESSORIES

- Operating Instructions (this document)..... 1 pc.
- The following parts are for installation/body cap..... 1 pc.
- ALC lens connector (VF4191J100)..... 1 pc.
- AC Power Cord (only for WV-CP250)..... 1 pc.

OPTIONAL ACCESSORIES

- Lenses: WV-LA2R8C38, WV-LA4R5C38, WV-LA8C38, WV-LA210C3, WV-LA40R3C, WV-LA6R3C, WV-LA2617U, WV-LA2622, WV-LA2628, WV-LA6R3C, WV-LA6R3C, WV-LA6R3C, WV-LA6R3C, WV-LA6R3C, WV-LA2612, WV-LA2612, WV-LA2612
- C-mount Adapter: WV-AD00E

Matsushita Electric Industrial Co., Ltd.  
Osaka, Japan  
http://www.panasonic.co.jp/global/